REMARKS

In the Final Office Action, the Examiner rejected claims 1-6, 8-17, 19-28 and 30-41 and objected to claims 7, 18 and 29. By this paper, the Applicant hereby amends claims 4, 7, 8, 10, 12, 15, 19, 26, 30, 34, 40, and 41 to correct minor informalities and antecedent basis. These amendments do not add any new matter. Moreover, these amendments do not raise any new issues or necessitate a new search. Accordingly, the Applicant respectfully requests entry of these amendments to place the claims in better form for appeal. Upon entry of these amendments, claims 1-41 remain pending in the present application and are believed to be in condition for allowance. In view of the foregoing amendments and the following remarks, the Applicant respectfully requests reconsideration and allowance of all pending claims.

Discrepancies in Office Action Status

The Applicant wishes to point out discrepancies in the Office Action status mailed on December 13, 2008. The section heading on line 12, page 7 indicates that the rejections of claims 1-6, 8-17, 19-28 and 30-41 are under 35 U.S.C. § 103(a). The details of the rejections on pages 7-16 also indicate that the rejections are under 35 U.S.C. § 103(a). However, the paragraph covering lines 6-8 on page 8 states that the rejections are under 35 U.S.C. § 102(b). *See* Final Office Action, page 8. This Response is being filed under the assumption that the rejections are under 35 U.S.C. § 103(a).

Claim Objections

In the Office Action, the Examiner objected to claims 4, 8, 15, 19, 26, and 30. Although the Applicant does not necessarily agree with the Examiner's objections, the Applicant hereby amends the claims as set forth above. In view of these amendments, the Applicant respectfully requests the Examiner withdraw the objections to the claims.

Response to Arguments

On pages 17-18 of the of the Final Office Action, the Examiner responded to the Applicant's arguments about the Bernier reference not teaching or suggesting any data

segmenting component that segments the engine data into a plurality of groups, wherein each group clusters a portion of the engine data. Specifically, the Examiner cited a new reference, i.e., Goebel et al. (U.S. Patent No. 6,216,066). The Applicant refers to the paragraphs cited by the Examiner (Abstract, lines 3-8; column 2, lines 13-21; FIGs. 4-7 and 21) and stresses that Goebel does not teach or suggest data segmenting based on similarities in engine operating parameters. The Examiner apparently equates "normal operating conditions" as taught in Goebel with "*engine operating parameters*" as disclosed is the current application. However, the normal operating conditions of the Goebel reference are never segmented in any manner. Instead, the Goebel reference discloses a trend analysis technique, which tracks all of the data over time to identify faults (i.e., alert conditions) with reference to the normal operating conditions. In other words, the Goebel reference does not segment the data in the manner recited in the present claims. Therefore, contrary to the Examiner's assertion, the Goebel reference does not teach or suggest segmenting based on similar engine operating parameters as generally recited by independent claims 1, 12, 23, 34 and 35. In view of these deficiencies, among others, the cited references cannot be combined to reject independent claims 1, 12, 23, 34 and 35 and their dependent claims under 35 U.S.C. § 103.

In a similar manner, the Applicant refers to the paragraphs cited by the Examiner (column 1, lines 17-19; column 3, lines 52-54) and stresses that Goebel does not teach or suggest data segmenting component that segments data based on time periods of data acquisition. The Examiner apparently equates sampling points at "different times" of the flight as taught in Goebel with a series of "*time periods*" used as a basis for segmenting engine data as disclosed is the current application. Again, the Goebel reference discloses a trend analysis technique, which clearly requires analysis of all data over time. Otherwise, the Goebel reference would be unable to identify trends and, thus, outliers in the data. In contrast to the present claims, the Goebel reference never mentions segmenting based on time periods of data acquisition. Therefore, contrary to the Examiner's assertion, the Goebel reference does not teach or suggest the foregoing features of independent claims 1, 12, 23, 34, and 35. In view of these deficiencies,

among others, the cited references cannot be combined to reject independent claims 1, 12, 23, 34 and 35 and their dependent claims under 35 U.S.C. § 103.

On page 18 of the of the Final Office Action, and in the "Claim Interpretation" section on 6 of the Final Office Action, the Examiner responded to the Applicants' arguments about the Bernier reference not teaching or suggesting any engine baseline model. Specifically, the Examiner maintained the position that Bernier's regression models are same as the baseline models of the Applicant. Although the Applicant does not intend or suggest that the specification should be read into the claims, the Applicant reiterates that the specification provides context that can assist the Examiner with his examination of the present claims. In the present case, the Bernier reference is completely silent about any "baseline model." Therefore, contrary to the Examiner's assertion, there apparently is *no* engine *baseline* model for each of the plurality of groups using regression analysis and Bernier does not teach or suggest the foregoing features of independent claims 1, 12, 23, 34, and 35. In view of these deficiencies, among others, the Bernier reference, taken alone or in hypothetical combination with the Goebel reference, cannot support a *prima facie* case of anticipation or obviousness of independent claims 1, 12, 23, 34 and 35 and their dependent claims.

On page 19 of the of the Final Office Action, and in the "Claim Interpretation" section on 7 of the Final Office Action, the Examiner responded to the Applicants' arguments about the Bernier reference not teaching or suggesting the features of monitoring engine status, predicting future engine behavior, diagnosing engine faults, identifying when engine performance is out of specification, identifying engine quality, or designing a new engine system, or a combination thereof. Specifically, the Examiner interpreted the foregoing features to mean diagnosing faults from the baseline model. Although the Applicant does not intend or suggest that the specification should be read into the claims, the Applicant reiterates that the specification provides context that can assist the Examiner with his examination of the present claims. In the present case, the Examiner apparently equated "system fault logic" with monitor engine status, predict future engine behavior, diagnose engine faults, identify when engine performance is out

of specification, identify engine quality, or design a new engine system. The Applicant respectfully stresses that nowhere does Bernier disclose or teach the forgoing features. Therefore, contrary to the Examiner's assertion, Bernier does not teach or suggest the foregoing features of independent claims 12 and 23. Furthermore, the secondary references (e.g., Goebel) do not obviate the deficiencies of the Bernier reference. In view of these deficiencies, among others, the Bernier reference, taken alone or in hypothetical combination with the Goebel reference, cannot support a *prima facie* case of anticipation or obviousness of independent claims 12 and 23 and their dependent claims.

Claim Rejections under 35 U.S.C. § 112, Second Paragraph

The Examiner rejected claims 7, 8, 10, 12, and 40 under 35 U.S.C. § 112, Second Paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. In addition, the Examiner rejected claims 1, 12, 23, 34, 35 and 39-41 under 35 U.S.C. § 112, Second Paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. The Applicant respectfully traverses this rejection.

Legal Precedent and Guidelines

The examiner's focus during examination of claims for compliance with the requirement for definiteness of 35 U.S.C. 112, second paragraph, is whether the claim meets the threshold requirements of clarity and precision, not whether more suitable language or modes of expression are available. *See* M.P.E.P. § 2173.02. Although the Examiner may take exception to the terms used in the claims, the patentee may be his own lexicographer. *Ellipse Corp. v. Ford Motor Co.*, 171 U.S.P.Q. 513 (7th Cir. 1971), *aff'd.* 613 F.2d 775 (7th Cir. 1979), *cert. denied*, 446 U.S. 939 (1980). The Applicant may use functional language, alternative expressions, negative limitations, or any style of expression or format of claim which makes clear the boundaries of the subject matter for which protection is sought. *See* M.P.E.P. §§ 2173.01 and 2173.05; *In re Swinehart*, 439 F.2d 10, 160 U.S.P.Q. 226, (CCPA 1971). The Examiner is also

reminded not to equate breadth of a claim with indefiniteness. *In re Miller*, 441 F.2d 689, 169 U.S.P.Q 597 (CCPA 1971).

The essential inquiry pertaining to the definiteness requirement is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity. *See* M.P.E.P. § 2173.02. As set forth in Section 2173 of the Manual of Patent Examining Procedure, definiteness of claim language must be analyzed, not in a vacuum, but in light of:

> (A) The content of the particular application disclosure;
> (B) The teachings of the prior art; and
> (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.

In reviewing a claim for compliance with 35 U.S.C. 112, second paragraph, the examiner must consider the claim as a whole to determine whether the claim apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by 35 U.S.C. 112, second paragraph, by providing clear warning to others as to what constitutes infringement of the patent. *See Solomon v. Kimberly-Clark Corp.*, 216 F.3d 1372, 1379, 55 U.S.P.Q.2d 1279, 1283 (Fed. Cir. 2000). Only when a claim remains insolubly ambiguous without a discernible meaning after all reasonable attempts at construction must a court declare it indefinite. *See Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1366, 71 U.S.P.Q.2d 1081, 1089 (Fed. Cir. 2004). Accordingly, a claim term that is not used or defined in the specification is not indefinite if the meaning of the claim term is discernible. *See Bancorp Services, L.L.C. v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1372, 69 U.S.P.Q.2d 1996, 1999-2000 (Fed. Cir. 2004).

Claims 7, 8, 10, 12, and 40

Regarding the first rejection summarized above, the Applicant hereby amends the claims as suggest by the Examiner. These amendments remove the antecedent basis problems summarized by the Examiner. Accordingly, in view of these amendments, the Applicant respectfully requests withdrawal of this first rejection under Section 112, Second Paragraph.

Claims 1, 12, 23, 34, 35 and 39-41

In the Office Action, the Examiner specifically rejected claims 1, 12, 23, 34, 35, and 39-41 due to language pertaining to groups or clusters based on similarities in engine operating parameters. *See* Final Office Action, pages 4-5. The Applicant respectfully traverses these rejections.

First, as summarized above, the Examiner is reminded not to equate breadth of a claim with indefiniteness. *In re Miller*, 441 F.2d 689, 169 U.S.P.Q 597 (CCPA 1971). In the present rejection, the Applicant submits that the Examiner's rejection confuses claim breadth with indefiniteness. The plain language of the claims indicates that groups are formed based on similarities, e.g., specifically similarities in engine operating parameters. One of ordinary skill in the art would readily understand the scope and meaning of this claim language. Although the Examiner may still believe this claim to be broad, the Applicant stresses that it is not indefinite as asserted by the Examiner. For at least this reason, among others, the Applicant respectfully requests withdrawal of the foregoing rejections under Section 112, Second Paragraph.

Second, as summarized above, Section 2173 of the Manual of Patent Examining Procedure explains that definiteness of claim language must be analyzed, not in a vacuum, but in light of:

> (A) The content of the particular application disclosure;
> (B) The teachings of the prior art; and
> (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.

Although the Applicant stresses that the claims are clear and definite on their face, i.e., based on the plain meaning of the terms, the Applicant stresses that the original application discusses embodiments of the claimed subject matter in numerous locations. For example, the original application discusses aspects of the claimed subject matter in paragraphs 0002, 0003, 0024,

0025, 0038, 0041, and so forth. For example, paragraph 0025 of the original application discloses:

> In addition, the preprocessor also comprises a data segmenting component 42 that segments engine data into groups, nodes or clusters that represent similar operating conditions. The groups generally include engine performance variables such as power setting, altitude, air speed (mach number), and air temperature. One of ordinary skill in the art will recognize that other engine performance variables such as air humidity and control settings may be selected and that the disclosure should not be limited to these variables. Once the groups have been selected, then the data segmenting component 42 can segment the data into the particular group that it relates to. Once the data are segmented into the groups, then the data segmenting component 42 can use a cluster analysis to determine clusters of operating conditions. Alternatively, an engineer may assign bands of operations of interest for each of the variables. Application, paragraph 0025 (emphasis added).

By further example, paragraph 0038 of the original application discloses specific examples of groups as follows:

> The data segmenting component 42 then segments the engine data into groups such as altitude, air speed and air temperature, fuel specific heat value, air humidity, control settings, etc. at 56. Application, paragraph 0038 (emphasis added).

In view of these passages, among others, the Applicant submits that similarities in engine operating parameters are well defined, clear, and definite. One of ordinary skill in the art would readily understand the scope and meaning of the present claims. For at least this additional reason, among others, the Applicant respectfully requests withdrawal of the foregoing rejections under Section 112, Second Paragraph.

In addition, the Examiner specifically rejected claims 1, 34, and 35 due to language pertaining to the display of one aspect of the engine baseline model. *See* Final Office Action, pages 4-5. The Applicant respectfully traverses these rejections.

First, as summarized above, the Examiner is reminded not to equate breadth of a claim with indefiniteness. *In re Miller*, 441 F.2d 689, 169 U.S.P.Q 597 (CCPA 1971). In the present

rejection, the Applicant submits that the Examiner's rejection confuses claim breadth with indefiniteness. The plain language of the claims indicates that something (e.g., an aspect of the model) can be displayed on a display. The intent of this clause is simply to enable display of some part or aspect of the model. One of ordinary skill in the art would readily understand the scope and meaning of this claim language. Although the Examiner may still believe this claim to be broad, the Applicant stresses that it is not indefinite as asserted by the Examiner. For at least this reason, among others, the Applicant respectfully requests withdrawal of the foregoing rejections under Section 112, Second Paragraph.

Second, although the Applicant stresses that the claims are clear and definite on their face, i.e., based on the plain meaning of the terms, the Applicant stresses that the original application discusses embodiments of the claimed subject matter in numerous locations. For example, the original application discusses aspects of the claimed subject matter in paragraphs 0017 and 0060. In view of these passages, among others, the Applicant submits that the claimed subject matter is well defined, clear, and definite. One of ordinary skill in the art would readily understand the scope and meaning of the present claims. For at least this additional reason, among others, the Applicant respectfully requests withdrawal of the foregoing rejections under Section 112, Second Paragraph.

Rejections Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 1-6, 8-17, 19-28 and 30-41 under 35 U.S.C. § 103(a) as being unpatentable over Bernier et al. (U.S. Patent No. 4,215,412, hereinafter "Bernier") in view of Goebel et al. (U.S. Patent No. 6,216,066; hereinafter "Goebel"). The Applicant respectfully traverses these rejections.

Legal Precedent

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). In addressing obviousness determinations under 35 U.S.C. § 103, the Supreme Court in *KSR International Co. v. Teleflex*

Inc., No. 04-1350 (April 30, 2007), reaffirmed many of its precedents relating to obviousness including its holding in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). In *Graham*, the Court set out an objective analysis for applying the statutory language of §103:

> Under §103, the scope and content of the prior art are to be determined, differences between the prior art and the claims at issue are to be ascertained, and the level of ordinary skill in the pertinent art are to be resolved. Against this background the obviousness or non-obviousness of the subject matter is to be determined. Such secondary considerations as commercial success, long-felt but unresolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. *KSR*, s*lip op.* at 2 (citing *Graham*, 383 U.S. at 17-18).

In KSR, the Court also reaffirmed that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *Id.* at 14. In this regard, the *KSR* court stated that "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does ... because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." *Id.* at 14-15. Traditionally, to establish a *prima facie* case of obviousness, the CCPA and the Federal Circuit have required that the prior art not only include all of the claimed elements, but also some teaching, suggestion, or motivation to combine the known elements in the same manner set forth in the claim at issue. *See, e.g., ASC Hospital Systems Inc. v. Montifiore Hospital,* 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984) (holding that obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination.); *In re Mills,* 16 U.S.P.Q.2d 1430, 1433 (Fed. Cir. 1990) (holding that the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination). In *KSR*, the court noted that the demonstration of a teaching, suggestion, or motivation to combine provides a "helpful insight" in determining whether claimed subject matter is obvious. *KSR, slip*

op. at 14. However, the court rejected a *rigid* application of the "TSM" test. *Id.* at 11. In this regard, the court stated:

> The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and explicit content of issued patents. The diversity of inventive pursuit and of modern technology counsels against limiting the analysis in this way. In many fields it may be that there is little discussion of obvious techniques or combinations, and it often may be the case that market demand, rather than scientific literature, will drive design trends. *Id.* at 15.

In other words, the *KSR* court rejected a rigid application of the TSM test which requires that a teaching, suggestion or motivation to combine elements in a particular manner must be explicitly found in the cited prior art. Instead, the *KSR* court favored a more expansive view of the sources of evidence that may be considered in determining an apparent reason to combine known elements by stating:

> Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art all in order to determine whether there was an apparent reason to combine in the known elements in the fashion claimed in the patent at issue. *Id.* at 14.

The *KSR* court also noted that there is not necessarily an inconsistency between the idea underlying the TSM test and the *Graham* analysis, and it further stated that the broader application of the TSM test found in certain Federal Circuit decisions appears to be consistent with *Graham*. *Id.* at 17-18 (citing *DyStar Textilfarben GmbH and Co. v. C.H. Patrick Co.*, 464 F.3d 1356, 1367 (2006) ("Our suggestion test is in actuality quite flexible and not only permits but *requires* consideration of common knowledge and common sense"); *Alza Corp. v. Mylan Labs, Inc.*, 464 F.3d 1286, 1291 (2006) ("There is flexibility in our obviousness jurisprudence because a motivation may be found *implicitly* in the prior art. We do not have a rigid test that requires a teaching to combine ... ")).

Furthermore, the *KSR* court did not diminish the requirement for objective evidence of obviousness. *Id.* at 14 ("To facilitate review, this analysis should be made explicit. See *In re Kahn,* 441 F.3d 977, 988 (CA Fed. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness"). As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ."); s*ee also, In re Lee,* 61 U.S.P.Q.2d 1430, 1436 (Fed. Cir. 2002) (holding that the factual inquiry whether to combine references must be thorough and searching, and that it must be based on *objective evidence of record*).

When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). The Federal Circuit has warned that the Examiner must not, "fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *In re Dembiczak*, F.3d 994, 999, 50 U.S.P.Q.2d 52 (Fed. Cir. 1999) (quoting *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983)).

It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 U.S.P.Q. 769, 779 (Fed. Cir. 1983); M.P.E.P. § 2145. Moreover, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of

the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (CCPA 1959); *see* M.P.E.P. § 2143.01(VI). If the proposed modification or combination would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); *see* M.P.E.P. § 2143.01(V).

The cited references, taken alone or in hypothetical combination, fail to teach or suggest features recited by independent claims 1, 12, 23, 34, and 35.

The Examiner stated on page 9, line 6 that Bernier fails to teach or a data segmenting component that segments the engine data into a plurality of groups, wherein each group clusters a portion of the engine data based on similarities in engine operating parameters, based on each specific engine, and based on time periods of data acquisition. The Examiner relied on the Goebel reference for allegedly teaching these elements.

The Applicant refers to the paragraphs cited by the Examiner (Abstract, lines 3-8; column 2, lines 13-21; FIGS. 4-7 and 21) and stresses that Goebel does not teach or suggest data segmenting based on similarities in engine operating parameters. The cited paragraphs of the Goebel reference read as follow:

> A classifier classifies the correlated data in a multi-dimensional space defined for the variables in the process. The normalized data are classified into a normal cluster indicative of normal operating conditions and at least one alert cluster each indicative of alert conditions. (emphasis added). Abstract, lines 3-8, Goebel.

> In particular, multi-variate clustering is used to classify the normalized data in a multi-dimensional space defined for the process variables. The normalized data are classified into a cluster indicative of normal operating conditions and one or more alert clusters indicative of alert conditions. The clusters are of non-uniform and non-linear degrading size and shape. In particular, the boundaries between the clusters are non crisp, such that the degree of membership for a cluster is largest at the center. (emphasis added). column 2, lines 13-21, Goebel.

In view of these passages, among others, the Applicant stresses that the Goebel reference merely teaches data trend analysis to determine whether or not data is normal or indicative of a fault. Thus, the Goebel reference merely discloses normal operating conditions and alert conditions without any mention of segmenting based on similarities in engine operating conditions. The terms similar, similarity, similarities, segment, segmenting, and the like, are not used anywhere in the Goebel reference. The Examiner appears to be reading the present application into the Goebel reference, i.e., improper hindsight reconstruction. For at least these reasons, among others, the Applicant respectfully submits that the Goebel reference cannot obviate the deficiencies of the Bernier reference. Thus, the cited references, taken alone or in hypothetical combination with one another, cannot support a *prima facie* case of obviousness of the present claims.

In a similar manner, the Applicant refers to the paragraphs cited by the Examiner (column 1, lines 17-19; column 3, lines 52-54) and stresses that Goebel does not teach or suggest data segmenting based on time periods of data acquisition. The cited paragraphs of the Goebel reference read as follow:

> In this example, engine data are sampled from an airplane at different times of the flight and transmitted to a ground station. The data are collected and distributed to an aircraft engine expert for that particular airplane fleet. Goebel, column 1, lines 17-19 (emphasis added).

> The engine data are sampled at different times of the flight such as during the take-off, the climb and the cruise. The engine data are transmitted in flight to a centralized data center and stored in a database 16. Goebel, column 3, lines 52-54 (emphasis added).

The Examiner apparently equates sampling points at "different times" of the flight as taught in Goebel with a series of "*time periods*" used as a basis for segmenting engine data. However, contrary to the Examiner's assertion, there apparently is *no* segmenting engine data based on *time periods* of data acquisition and Goebel does not teach or suggest the foregoing features of independent claims 1, 12, 23, 34 and 35. In fact, the Goebel reference appears to teach away

from segmenting based on time periods. For example, the Goebel reference discloses that the "present invention relates generally to trend performance analysis." Goebel, column 1, lines 6-7. More specifically, the Goebel reference discloses analysis of data over time to identify trends, and outliers indicative of faults. *See* Goebel, column 1, lines 12-34; column 3, lines 58-67. Thus, the Goebel reference does not segment the data based on time periods of data acquisition, but rather it groups all data for a full evaluation of the trends over time. In other words, the Goebel reference teaches away from the features recited in the present claims. In view of these deficiencies, among others, the cited references cannot be combined to reject independent claims 1, 12, 23, 34 and 35 and their dependent claims under 35 U.S.C. § 103.

As a result, the cited references, taken alone or in hypothetical combination, fail to support a *prima facie* case of obviousness of independent claims 1, 12, 23, 34, and 35 and their dependent claims. For at least these reasons, among others, the Applicant respectfully requests withdrawal of the foregoing rejections.

Dependent claims 8, 19 and 30.

Dependent claim 8 recites, *inter alia*, "a data acquisition component that extracts engine data from the engine service database." Dependent claim 19 recites, *inter alia*, "processing step further comprising extracting engine data from the engine service database." Dependent claim 30 recites, *inter alia*, "one or more instructions for extracting engine data from the engine service database."

Bernier fails to teach or suggest the foregoing features of a data acquisition component that extracts engine data from the engine services database as is generally recited in dependent claims 8, 19 and 30. Bernier only discloses that once the engine data is received at the ground station, it is generally "conditioned" by filtering techniques to remove a substantial portion of the noise content and to normalize the data so that it is amenable to processing within the particular computer and analysis routine that is employed. Futhermore, after such conditioning and normalization, the data is stored within a data bank for later computer processing. The Applicant

has carefully reviewed the sections (column 1, lines 49-67 and column 5, lines 19-28) referenced by the Examiner and submits that these sections fail to disclose any data acquisition component or any extraction of engine data from the engine services database. The Applicant respectfully submits that Goebel fails to obviate the deficiencies in the teachings of Bernier.

In view of the foregoing deficiencies in the teachings of the prior art, any hypothetical combination of Bernier and Goebel fails to teach the elements recited in claims 8, 19, and 30. Accordingly, these claims are believed to be clearly patentable over the cited references. Their reconsideration and allowance are respectfully requested. For at least this reason, among others, the hypothetical combination of Bernier and Goebel cannot support a *prima facie* case of obviousness of the present claims.

Dependent claims 2, 13, and 24.

Dependent claim 2 recites, *inter alia*, that "the data segmenting component segments the engine data into the plurality of groups throughout a preselected moving time window." Dependent claim 13 recites, *inter alia*, "segmenting the engine data into the plurality of groups throughout a preselected moving time window." Dependent claim 24 recites, *inter alia*, "instructions for segmenting the engine data into the plurality of groups throughout a preselected moving time window."

Bernier fails to teach or suggest the foregoing features of segmenting the engine data into the plurality of groups throughout a preselected moving time window as is generally recited in dependent claims 2, 13 and 24. the Applicant has carefully reviewed the sections (column 15, line 59-column 16, line 24; column 16, lines 6-column 19) referenced by the Examiner and submits that these sections fail to disclose any data segmenting component that segments the engine data into the plurality of groups throughout a preselected moving time window. The Applicant respectfully submits that Goebel fails to obviate the deficiencies in the teachings of Bernier.

In view of the foregoing deficiencies in the teachings of the prior art, any hypothetical combination of Bernier and Goebel fails to teach the elements recited in claims 2, 13, and 24. Accordingly, these claims are believed to be clearly patentable over the cited references. Their reconsideration and allowance are respectfully requested. For at least this reason, among others, the hypothetical combination of Bernier and Goebel cannot support a *prima facie* case of obviousness of the present claims.

Dependent claims 3, 14, and 25.

Dependent claim 3 recites, *inter alia*, that "data segmenting component segments the engine data into the plurality of groups throughout discrete time ranges." Dependent claim 14 recites, *inter alia*, "segmenting the engine data into the plurality of groups throughout discrete time ranges." Dependent claim 25 recites, *inter alia*, "instructions for segmenting the engine data into the plurality of groups throughout discrete time ranges."

Bernier fails to teach or suggest the foregoing features of segmenting the engine data into the plurality of groups throughout discrete time ranges as is generally recited in dependent claims 3, 14 and 25. The Applicant has carefully reviewed the sections (Abstract, lines 5-18 and lines 24-29; column 1, line 67-column 2, line 4) referenced by the Examiner and submits that these sections fail to disclose any data segmenting component that segments the engine data into the plurality of groups throughout discrete time ranges. The Applicant respectfully submits that Goebel fails to obviate the deficiencies in the teachings of Bernier.

In view of the foregoing deficiencies in the teachings of the prior art, any hypothetical combination of Bernier and Goebel fails to teach the elements recited in claims 3, 14, and 25. Accordingly, these claims are believed to be clearly patentable over the cited references. Their reconsideration and allowance are respectfully requested. For at least this reason, among others, the hypothetical combination of Bernier and Goebel cannot support a *prima facie* case of obviousness of the present claims.

Dependent claims 39, 40, and 41.

Dependent claim 39 recites, *inter alia*, that "each group represents a cluster of similar engine operating parameters comprising altitude, air speed, air temperature, fuel specific heat value, air humidity, control settings, or a combination thereof." Dependent claim 40 recites, *inter alia*, "plurality of groups are representative of different clusters of similar engine operating parameters comprising altitude, air speed, air temperature, fuel specific heat value, air humidity, control settings, or a combination thereof." Dependent claim 41 recites, *inter alia*, "plurality of groups are representative of different clusters of similar engine operating parameters comprising altitude, air speed, air temperature, fuel specific heat value, air humidity, control settings, or a combination thereof."

The Examiner stated that Bernier fails to teach or suggest the foregoing features of engine operating parameters as is generally recited in dependent claims 39, 40, and 41 and he relied on the Goebel reference for the alleged disclosure of the same. The Applicant has carefully reviewed the sections (Abstract, lines 3-8, column 2, lines 13-21; FIG.s 4-7 and 12) of Goebel as referenced by the Examiner and submits that these sections fail to disclose any plurality of groups that are representative of different clusters of similar engine operating parameters comprising altitude, air speed, air temperature, fuel specific heat value, air humidity, control settings, or a combination thereof. The Applicant respectfully submits that Goebel fails to obviate the deficiencies in the teachings of Bernier.

In view of the foregoing deficiencies in the teachings of the prior art, any hypothetical combination of Bernier and Goebel fails to teach the elements recited in claims 39, 40, and 41. Accordingly, these claims are believed to be clearly patentable over the cited references. Their reconsideration and allowance are respectfully requested. For at least this reason, among others, the hypothetical combination of Bernier and Goebel cannot support a *prima facie* case of obviousness of the present claims.

Conclusion

In view of the remarks and amendments set forth above, the Applicant respectfully requests allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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/Tait R. Swanson/

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